

creos™

creos™ was launched in

2014

creos™ xenoprotect



2016

creos™ xenogain
creos™ xenogain collagen



2018

creos™ mucogain

2021

creos™ syntoprotect



2022

creos™ syntogain
creos™ xenoform



2023

creos™ syntostitch
creos™ xenofill
creos™ screw fixation
creos™ xenofirm





The trusted regenerative partner for you and your patients

Indication-based product overview 4

Bone grafts

creos™ xenogain	6
creos™ xenogain collagen	6
creos™ xenoform	8
creos™ syntogain	10

Membranes

creos™ xenoprotect	12
creos™ xenofirm	14
creos™ syntoprotect	16
creos™ syntoprotect titanium reinforced	16

Collagen matrix

creos™ mucogain	18
-----------------	----

Wound dressings

creos™ xenofill	20
-----------------	----

Sutures

creos™ syntostitch	22
--------------------	----

Fixation systems

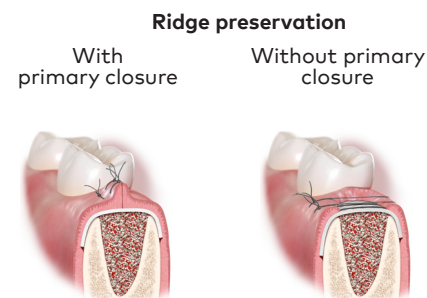
creos™ screw fixation	23
-----------------------	----







Article overview 24

References 32

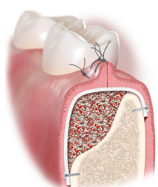
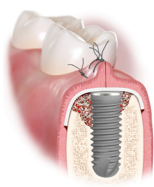
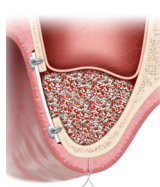
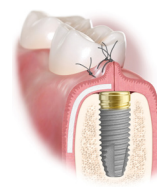
Indication-based product overview

See article lists (p. 24–31) for most commonly used product codes



 Bone grafts	creos xenogain*	Xenogenic bone graft substitute	0.25–0.5 g	0.25–0.5 g
	creos xenogain collagen	creos xenogain + 10% porcine collagen type I	0.1–0.25 g	0.1–0.5 g
	creos xenofirm*	Xenogenic bone graft substitute	0.25–0.5 g	0.25–0.5 g
	creos syntogain*	Synthetic bone graft	0.5–1 g	0.5–1 g
 Membranes	creos xenoprotect	Resorbable collagen membrane	15 x 20 mm	
	creos xenofirm	Resorbable, firm collagen membrane	15 x 20 mm	
	creos syntoprotect	Non-resorbable high-density PTFE membrane		12 x 24 mm 12 x 30 mm 25 x 30 mm
	creos syntoprotect Ti-reinforced	Non-resorbable titanium-reinforced high-density PTFE membrane		Shapes 1 and 2
 Matrices	creos mucogain	Absorbable collagen matrix		
 Wound dressings	creos xenofill	Absorbable wound dressing		Plug (fully intact sockets only)
 Sutures	creos syntostitch	Non-absorbable PTFE suture-monofilament	All sizes	All sizes
 Fixation system	creos screw fixation	Self-drilling titanium fixation screws		

*Please consult article lists (p. 24–31) for conversion to volume (cc)

Horizontal ridge augmentation**Vertical ridge augmentation****Peri-implant defect****Sinus augmentation****Periodontal defects****Soft tissue augmentation (around teeth or implants)**

0.25–0.5 g	0.5–2 g	0.25–0.5 g	1–2 g	0.25 g	
0.25–0.5 g		0.15–0.25 g	0.25–0.5 g	0.1–0.25 g	
0.25–0.5 g	0.5–2 g	0.25–0.5 g	1–2 g	0.25 g	
0.5–1 g	1 g	0.5 g	1 g	0.5 g	
15 x 20 mm 25 x 30 mm	25 x 30 mm 30 x 40 mm	15 x 20 mm	15 x 20 mm 25 x 30 mm	15 x 20 mm	
15 x 20 mm 20 x 30 mm	20 x 30 mm 30 x 40 mm	15 x 20 mm	15 x 20 mm 20 x 30 mm	15 x 20 mm	
		12 x 24 mm 12 x 30 mm 25 x 30 mm			
Shapes depending on defect	Shapes depending on defect	Shapes depending on defect			
					15 x 20 mm 25 x 30 mm
					Foam, Tape (for donor site)
All sizes	All sizes	All sizes	All sizes	All sizes	4-0; 5-0
All types	All types	All types			

creos™ xenogain

Xenogenic bone graft used for guided bone regeneration and guided tissue regeneration



Three different methods of application:



Vial



Bowl



Syringe

Similar to human bone

- Chemical composition: Ca/P ratio
- Interconnected macropores^{1,2}

Easy handling

- Homogenous particle size¹
- Hydrophilic for fast rehydration^{3,4}

Solid foundation for dental implant treatment

- Osteoconductive properties²
- Long-term volume stability⁶
- Uneventful healing^{7,8,4,6,9}



"I appreciate its handling properties and I see its high hydrophilicity as a biological advantage in sinus grafting and peri-implant defect regeneration"

Dr. Werner Zechner, Austria



Bovine

creos™ xenogain collagen



Block



Syringe

Purified cancellous bovine bone mineral granules and 10% porcine collagen in block form and syringe. The collagen helps to hold creos xenogain collagen in the desired place. Especially recommended for extraction socket management.



Bovine



Porcine

Scaffold for successful regeneration

Preserved natural features of bone through optimized manufacturing process.²

Chemical composition

With a calcium phosphate ratio that reflects the composition in human bone and a structure with low crystallinity, the body accepts creos xenogain as a suitable framework for bone formation.¹

Particle size

- Homogenous particle size¹
- Maintains space for bone regeneration⁴

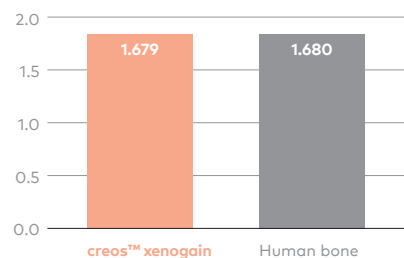
Preserved nanostructure

Nanostructure preserved thanks to treatment at comparatively low temperature (600°C) and no sintering.²

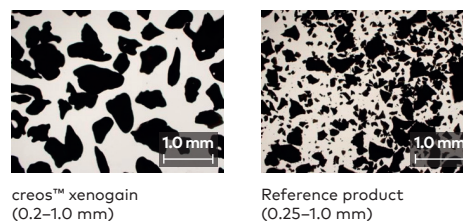
Macro and micro-structure

Interconnected macropores allow cells to invade bone grafts and micropores contribute to capillary liquid uptake (hydrophilicity).^{10,11}

Calcium phosphate ratio



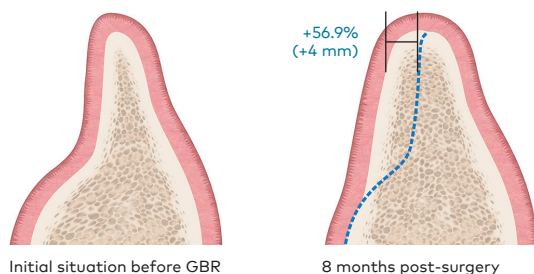
Photographic micrograph of creos xenogain and reference product showing the particle size distribution (magnification 20x)



Solid foundation for implant placement

The graft integrates with the newly formed bone, building a basis for successful implant placement.⁴

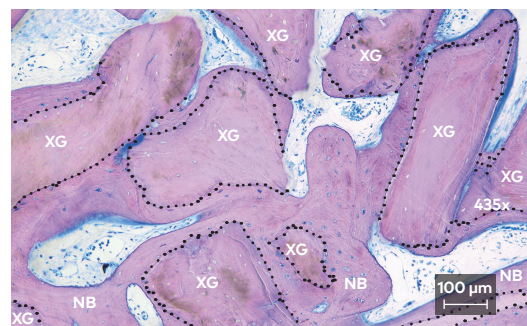
Schematic showing the defect and bone size prior to and after GBR



In a multicenter clinical study involving 46 patients, bone increase after 8 months was 4.0 mm (+56.9 % gain) and 4.7 mm (51.0% gain) at 1 and 3 mm from the top of the crest, respectively.⁷

GBR led to robust bone regeneration during the 8 months of healing, enabling successful placement of 91 implants in 43 patients, with an average insertion torque of 37.8 ± 5.1 Ncm.⁷

Histological cross section of the cellular components: new bone (NB), bone graft (XG). Bone-to-graft-particle contact shown by dashed line.



Histological assessment of the trephine cores showed 37.3 % of new bone, 39.1 % of graft material, and 23.6 % of soft tissue (n = 6 cores, 3 patients).⁷



Scan the code for more resources.

creos™ xeniform

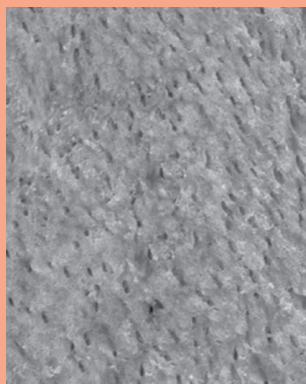
Xenogenic bone graft used for guided bone regeneration and guided tissue regeneration

Cancellous bovine bone sourced from Australia with two application types and two granule sizes



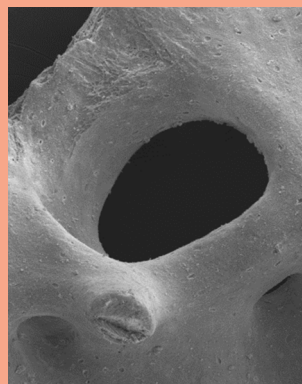
Multiporosity structure

- Made from 100% cancellous bone
 - Innovative pulverizing technique allowing multiporous structure
- **Maximizing blood vessel ingrowth**



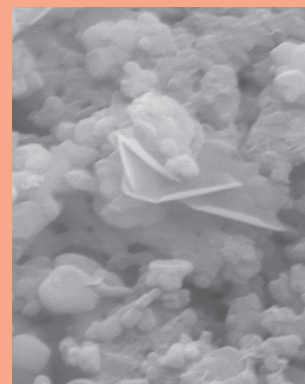
Natural surface topography

- Low-temperature processing technique
 - Natural surface topography
- **Stimulating osteoblast activity**



Large pore size

- creos xeniform has a relatively large pore size (300–400 µm) compared to other world-leading products
- **Favorable for blood vessel access and development^{1,2}**



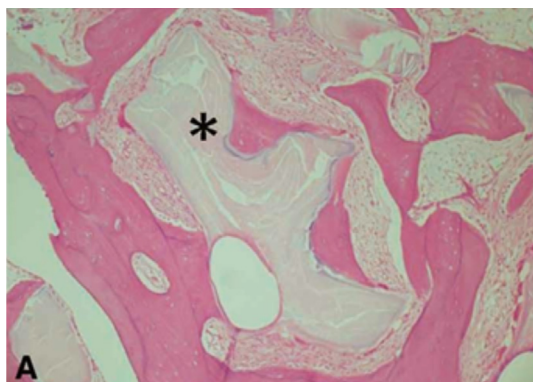
Octacalcium phosphate crystals

- are found on the surface
- **Enhancing bone regeneration and formation¹**

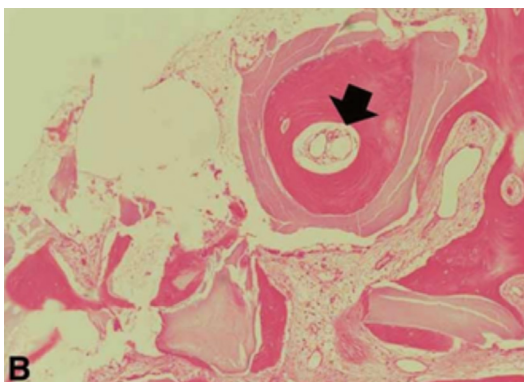
*as shown in an animal model

Histology: New bone formation of the grafted creos xenoform in the human maxillary sinus cavity³

- Sinus graft procedures were conducted in 10 patients
- 6 specimens used for histomorphometric analysis
 - 23.5% new bone and 15.4% residual graft material 6 months after bone graft surgery
 - More newly formed bone than residual graft material



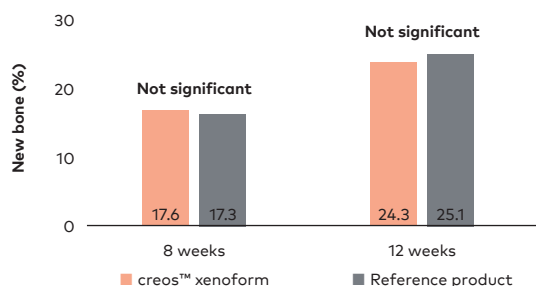
A. Residual graft material (*) circumscribed by newly formed bone.



B. Ingrowth of microvessels in the newly formed bone (arrow) with lacunae in the bone lamellae.

High percentage of newly regenerated bone

- Patient biopsies show $23.5 \pm 0.1\%$ new bone vs 15.4 ± 0.06 residual bone graft 6-8 months post sinus lift.³
- In an in-vivo model to evaluate the bone healing effect of biomaterials, the percentage of the newly formed bone with creos xenoform and the reference product were comparable (differences were statistically non-significant). No infections or complications observed after surgery.¹



Long-term success in clinical setting

In the last 10+ years, creos xenoform has been used by dental surgeons around the world and in challenging clinical.

Long-term results

Stable pre-implant bone level 11 years after tooth extraction and immediate implant placement with bone augmentation (position FDI 26)



Image courtesy of Myung Ho Lee, DDS, Republic of Korea



Scan the code for more resources.

creos™ syntogain

Non-animal based bone graft substitute for efficient regeneration¹

Unique composition of the material^{1,2,3}

- 80% of calcium-deficient hydroxyapatite (CDHA) and 20% of BTCP (beta-tricalcium phosphate)
- It's biomimetic: it mimics human bone that is also made of CDHA^{1,2,3}

Microscopic surface made of nanocrystals^{1,4}

- High specific surface area^{1,5,6}: helps the cells to attach for new bone generation⁷
- High microporosity, thus enhancing bone ingrowth^{1,8}

Bone stability^{1,10}

- The bone is stable and it maintains the volume of the defect based on clinical case series^{9,10}



And even more:

Unique round shape of the granules^{1,10}

- Makes it easy to apply in situ¹¹
- Avoids stacking effect¹

High hydrophilicity¹²

- Allows for easy hydration and granule handling¹²

Non-sintered¹

- Microporosity and osteoconductivity are not reduced^{13,14}



Advanced manufacturing process¹

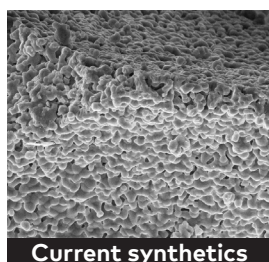
creos syntogain is the latest generation of synthetic bone graft. Its manufacturing process in an aqueous environment and at low temperature enables a bone graft with a unique composition, round granule shapes, a high surface area and a nano-/microporosity similar to natural bone.

1. Unique composition^{1,2,3}

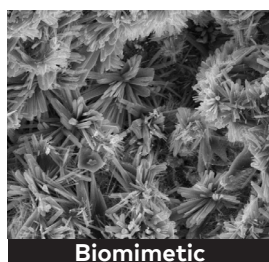
- 80% CDHA (carbonated calcium deficient hydroxyapatite)
- 20% β -tricalcium phosphate.

creos syntogain CDHA crystallinity resembles that of human bone.^{1,2,3}

The closer a material resembles human bone, the better it is for bone formation.¹⁵



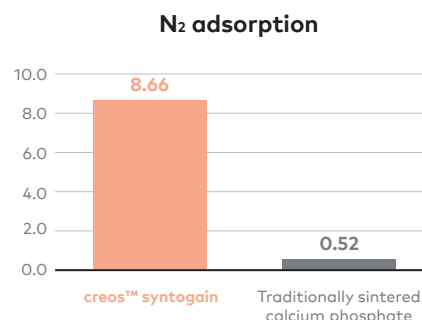
Current synthetics
Traditional calcium phosphate (HA / β -TCP) synthetics
High-temperature manufacturing process: passivates materials and reduces the potential of the host to interact with it.



Biomimetic
creos syntogain biomimetic calcium phosphate (CDHA / β -TCP)
Low-temperature manufacturing process: hydroxyapatite crystals grow slowly to mimic the structure and composition of human bone.

2. High specific surface area^{1,5,6}

Thanks to the biomimetic manufacturing process, hydroxyapatite crystals grow on the surface of the granules. This increases the surface area and enables the cells to attach for bone generation.¹⁶

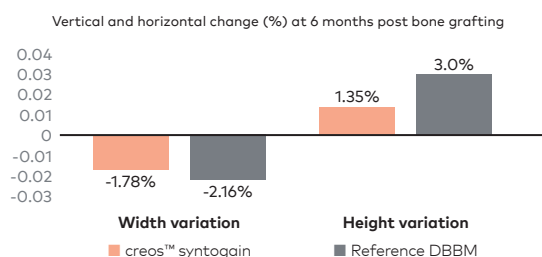


The specific surface area was measured by nitrogen adsorption

Clinical outcomes¹⁷

In one of the largest randomized clinical trials performed in dental bone regeneration with 102 patients in need of a bone augmentation, creos syntogain showed non-inferiority with the reference deproteinized bovine bone matrix (DBBM): no statistically significant difference in the vertical and buccolingual dimensional change was observed.

Six months post grafting, the mean bone change in width and height was respectively -1.78% and 1.35% for creos syntogain (n=42) and -2.16% and 2.99% for the reference DBBM (n=41). The differences between the two materials were not statistically significant.



The mean implant insertion torque was 36.2 Ncm at sites regenerated with creos syntogain and 35.1 Ncm at sites regenerated with the reference DBBM. For creos syntogain, 71.1% of the implants were placed with an insertion torque above 35 Ncm and 62.8% for the reference DBBM.

	creos™ syntogain n=45	Reference DBBM	t-test
Insertion Torque (Ncm ¹)	36.2	35.1	0.676
StDev	12.4	13.6	
ISQ	70.2	70.8	0.770
StDev	12.0	9.8	



Scan the code for more resources.

creos™ xenoprotect

Nobel Biocare's highest selling
resorbable collagen membrane



Easy handling^{1,2}

- Does not stick to instruments
- Repositioning in-situ possible
- Low surface expansion when hydrated
- Both sides can face the defect

High mechanical strength^{2,3,4}

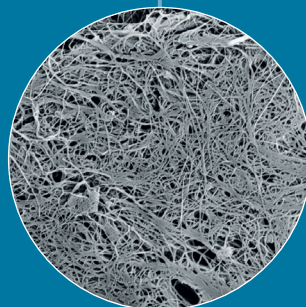
- High suture retention^{1,4,9}
- Highly tear-resistant

Natural collagen membrane

- Non-chemically cross-linked¹⁴
- Made from porcine collagen

Facilitates bone gain^{2,3,5,6,7,8}

- Tested and approved biocompatibility^{7,10}
- Beneficial clinical results^{7,10}



"What I like is that the handling is very easy. The mechanical stability is very high and when it is rehydrated it adapts very well to the underlying bone"

Dr. Bastian Wessing, Germany

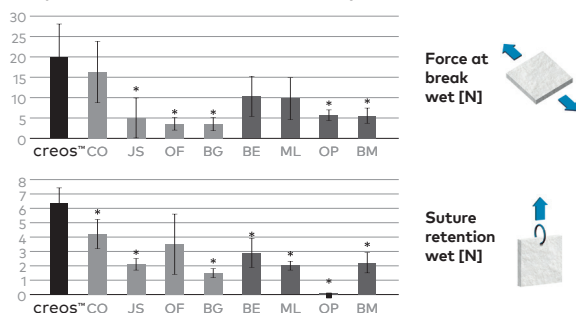
* As shown in an animal model (rat, subcutaneous)

High mechanical strength

In an in vitro study aiming to compare the mechanical strength of commonly used native non-chemically cross-linked and chemically cross-linked collagen membranes⁴

- creos xenoprotect demonstrated the highest force at break, wet (21.2 N).
- creos xenoprotect had the highest suture retention when hydrated (6.1 N).

Comparison of commercial membranes in a hydrated state



Non-cross-linked collagen membranes (NXL) – CX: creos™ xenoprotect [Nobel Biocare]; CO: Copios [Zimmer]; JS: Jason [botiss]; OF: Osseoguard Flex [3i]; BG: Bio-Gide [Geistlich]

Cross-linked collagen membranes (XL) – BE: BioMend Extend [Zimmer]; ML: Mem-Lok [BioHorizons]; OP: OssixPlus [Datum Dental]; BM: BioMend [Zimmer];

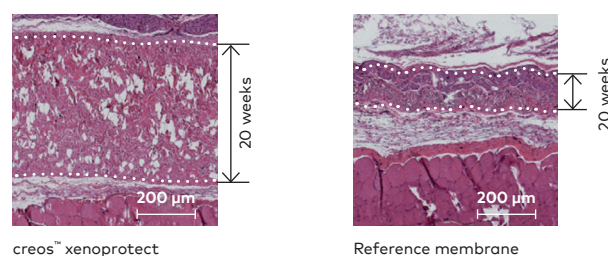
*Statistically significant

Provides a physical barrier to contain the bone graft material at the defect site^{1,2,3,5,6,11,12,13}

Prevents ingrowth of surrounding tissue for a period of time that is long enough to allow bone regeneration to take place.

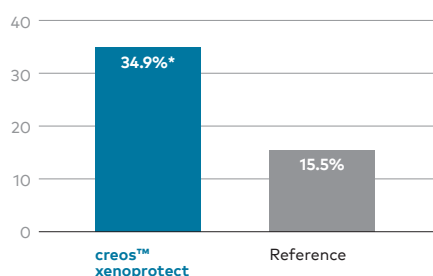
In an animal model, after 20 weeks, the thickness of xenoprotect decreased only slightly, whereas the reference membrane showed a thickness loss of around 50%, confirming the higher stability of xenoprotect against biodegradation in vivo.³

Representative histological images at 20 weeks implantation in a rat model.



Facilitates new bone formation^{2,3,5,6,7,8}

New bone formation (%)



In a comparative in vivo study, creos xenoprotect demonstrated significantly higher new bone formation in the central portion of the defect.

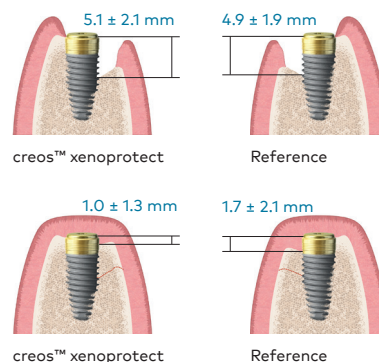
This increase in bone formation was associated with significantly increased expression of the growth factor *Bmp2*, which has a strong role in osteogenesis.⁷

*Statistically significant

In a randomized controlled clinical trial, 24 patients were treated with creos xenoprotect and 25 with a reference membrane. In the creos xenoprotect group, the defect height reduced at 6-month re-entry by 81%.

In the reference membrane group, the defect height reduced at 6-month re-entry by 62%.⁵

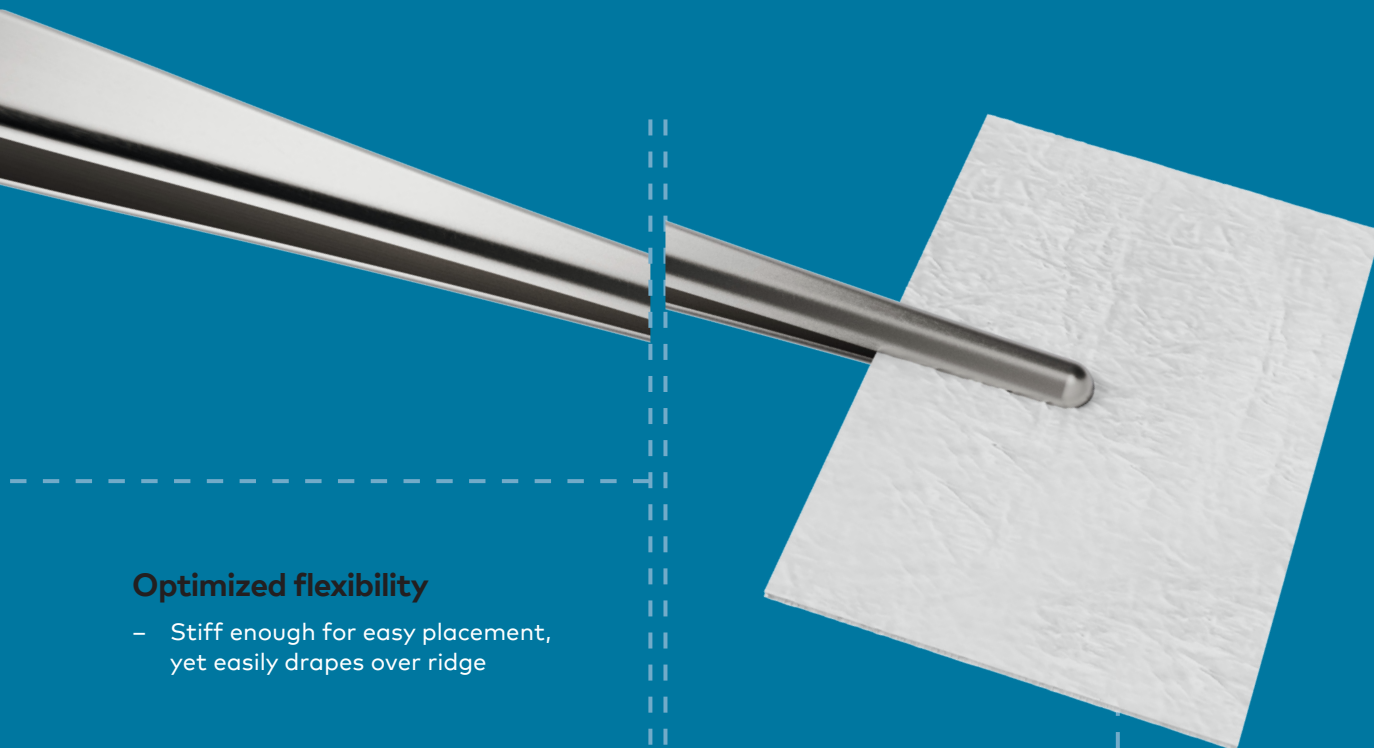
Schematic showing the defect height prior to treatment and 6 months after GBR



Scan the code for more resources.

creos™ xenofirm

**Resorbable, firm, and long-lasting
collagen membrane**



Optimized flexibility

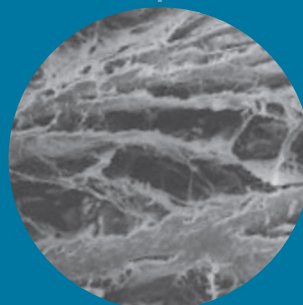
- Stiff enough for easy placement,
yet easily drapes over ridge

Long predictable resorption time

- Resorption time 26–30 weeks

High tensile strength

- Suture or tack the membrane
in place without tearing



Manufactured from highly purified Type 1 bovine Achilles tendon

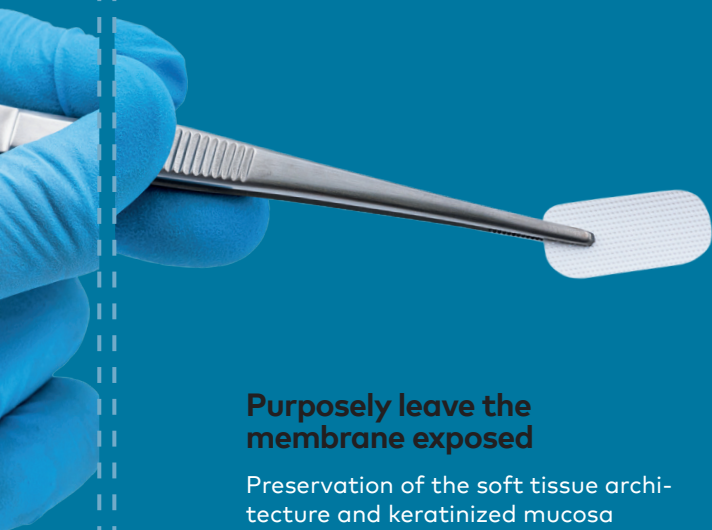
Reconstituted fiber construction allows
tissue integration while preventing
direct passage of epithelial cells.





creos™ syntoprotect

Non-resorbable dense PTFE membrane for extraction socket management, ridge augmentations, and grafting of large defects



syntoprotect PTFE membrane

Purposely leave the membrane exposed

Preservation of the soft tissue architecture and keratinized mucosa

Non-resorbable

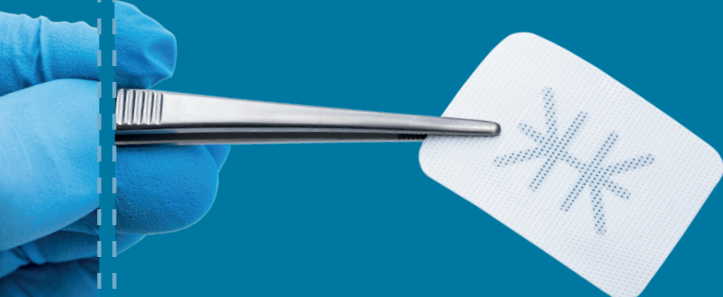
Will not resorb prematurely – you dictate healing time

100% dense (non-expanded) PTFE

Impervious to bacteria – pore size less than 0.3 μm

Soft tissue attaches, but doesn't grow through the membrane

Exposed membrane allows for non-surgical removal; no anesthesia required



syntoprotect Ti-reinforced PTFE membrane

Delicate, lightweight framework

Easy to trim and compliant with the overlying soft tissues

Less is more

Less titanium bulk allows for greater versatility in shaping and placement, providing additional stability in large, non-spacemaking osseous defects

Handling options

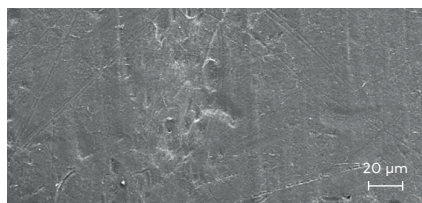
Broad portfolio with 15 shapes in two thicknesses

Traditional frame design

Incorporating delicate and strategically-placed titanium "struts" with more than 25 years of clinical history and successful use in GBR

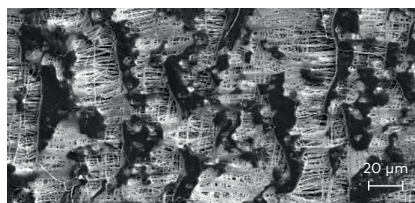
Unique properties of dense PTFE membranes

Dense PTFE



SEM image courtesy of Schüpbach Ltd, Switzerland.

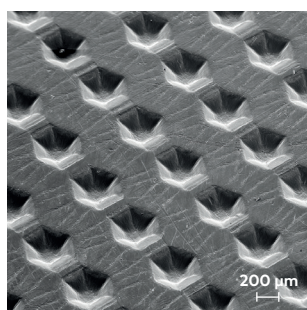
Expanded PTFE



SEM image courtesy of Schüpbach Ltd, Switzerland.

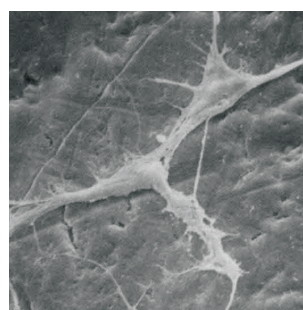
Dense PTFE was designed to withstand exposure in the oral environment, which represents an improvement to earlier versions of expanded PTFE in applications such as ridge preservation where deliberate membrane exposure offers several advantages.

Designed to aid in membrane stabilization



SEM image courtesy of Schüpbach Ltd, Switzerland.

Hexagonal surface dimples provide a textured surface that increases the area available for cellular attachment without increasing porosity. The textured surface is designed to help stabilize the membrane and the soft tissue flap.

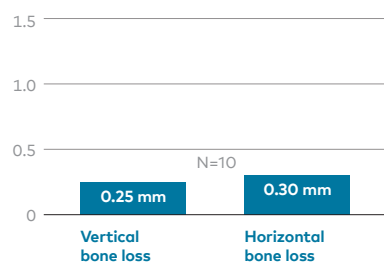


Although PTFE is inherently a non-stick material, cells attach to the outside of the dense PTFE membranes. Cellular adhesion is important to create a seal around the edges of exposed dense PTFE membranes or to support primary closure in larger graft applications.

Clinical evidence

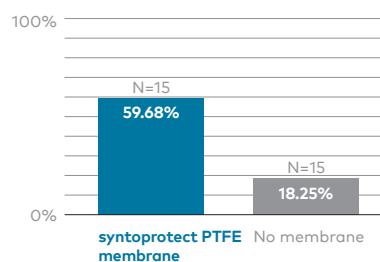
Efficacy

Bone loss 1-year post-extraction¹



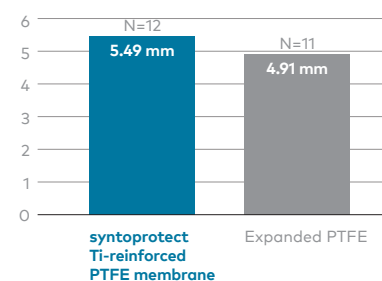
Vertical bone loss measured at crest. Horizontal measured from stent to buccal plate.

Soft tissue regeneration 90 days post-extraction²



Measured as reduction of the occlusal distance between buccal and lingual gingival margins.

Vertical ridge augmentation around implants³



Mean vertical bone regeneration.

Predictability

In two separate studies treating a total of 696 extraction sites using dense PTFE membranes in an exposed technique, there were no reported infections.^{4,5}

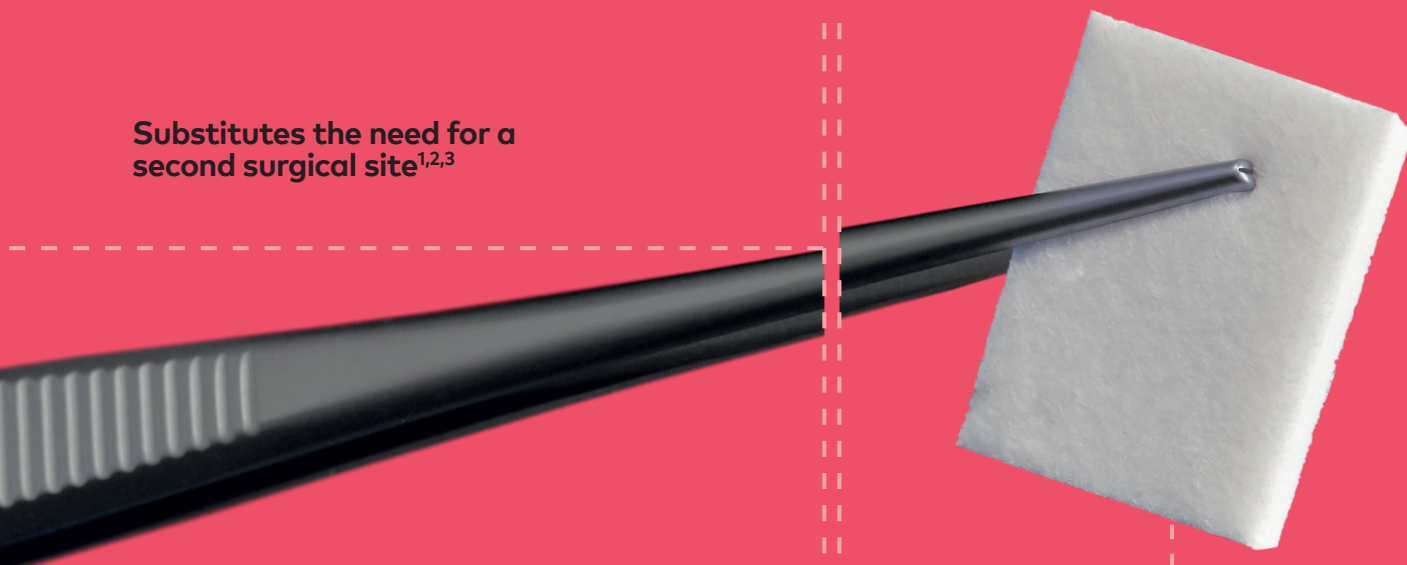


Scan the code for more resources.

creos™ mucogain

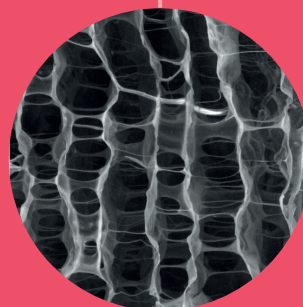
Collagen matrix designed to
promote soft tissue regeneration

Substitutes the need for a
second surgical site^{1,2,3}



Patented manufacturing method

- Open interconnecting porous structure.
- Designed to promote soft tissue regeneration through the migration of cells and blood vessels into the matrix.^{4,5,6}



Variety of choices

- A choice of different sizes and thicknesses.

Excellent handling

- Easy to use⁷
- High suture retention and stress resistance⁷
- Memory effect after hydration and cycling loading in vitro⁴
- Trim to precisely fit surgical site⁷

Clinically effective

- Shown to promote soft tissue health and maintain adequate soft tissue thickness in a clinical study.^{23,24,25,26}



"It felt like an autogenous tissue graft and the mechanical stability is amazing"

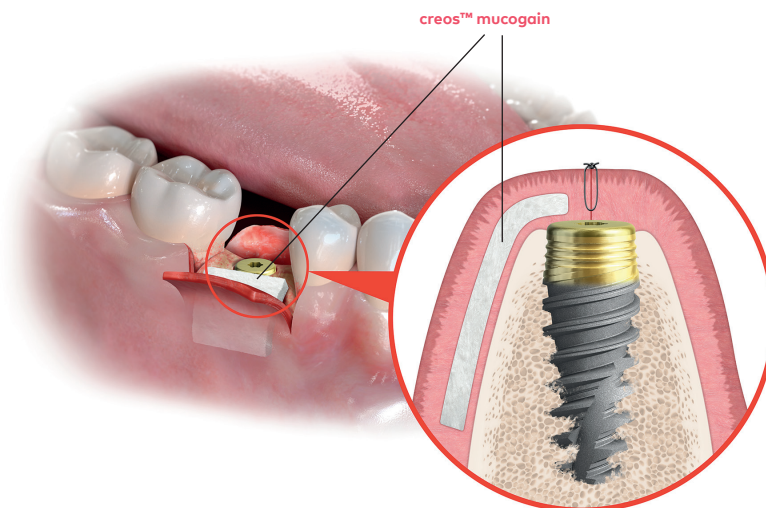
Dr. Miguel González Menéndez, Spain



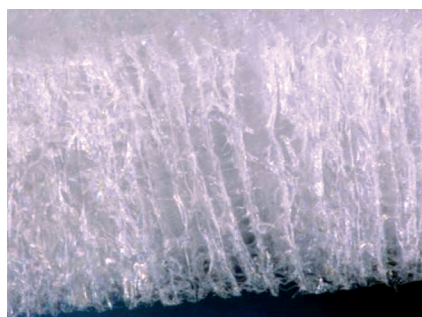
Use straight out of the box

creos mucogain is intended to be used for soft tissue augmentation indications in the oral cavity around teeth or implants:

- Guided tissue regeneration (GTR) procedures in recession defects for root coverage.
- Localized gingival augmentation to increase keratinized tissue around teeth and implants.

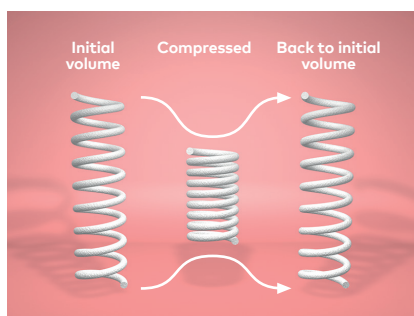


Unique oriented porous structure



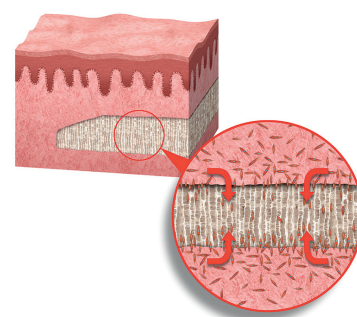
1. Matrix structure

Interconnecting porous structure produced by a patented process.^{4,5,6}



2. Mechanical properties

After hydration and compression in 49 cycles in vitro, the graft regains its initial volume.⁴



3. Biological outcome

Designed to promote soft tissue regeneration through the migration of cells and blood vessels into the matrix.^{4,6}

Clinically effective^{7,8,9,10}

Clinically effective for soft tissue regeneration in combination with immediate implant placement and bone grafting procedure.^{7,8}

A retrospective analysis including 45 patients with a follow-up of up to 4.5 years (mean of 1.8 ± 1.3 years) demonstrated that creos mucogain promotes soft tissue health and maintains adequate soft tissue thickness when used simultaneously with implant placement.⁹

Clinical case

Buccal view prior to surgery (left) and 8 months after surgery (right) on #22, #24, #25, #26 after treatment with creos mucogain.



Cirillo F. (March 2020). Periodontal plastic surgery: gingival recession coverage with a xenogenic collagen matrix. The Foundation for Oral Rehabilitation (FOR.org): <https://bit.ly/2TkLsgu> (Images reprinted with permission of the author and FOR.)



Scan the code for more resources.

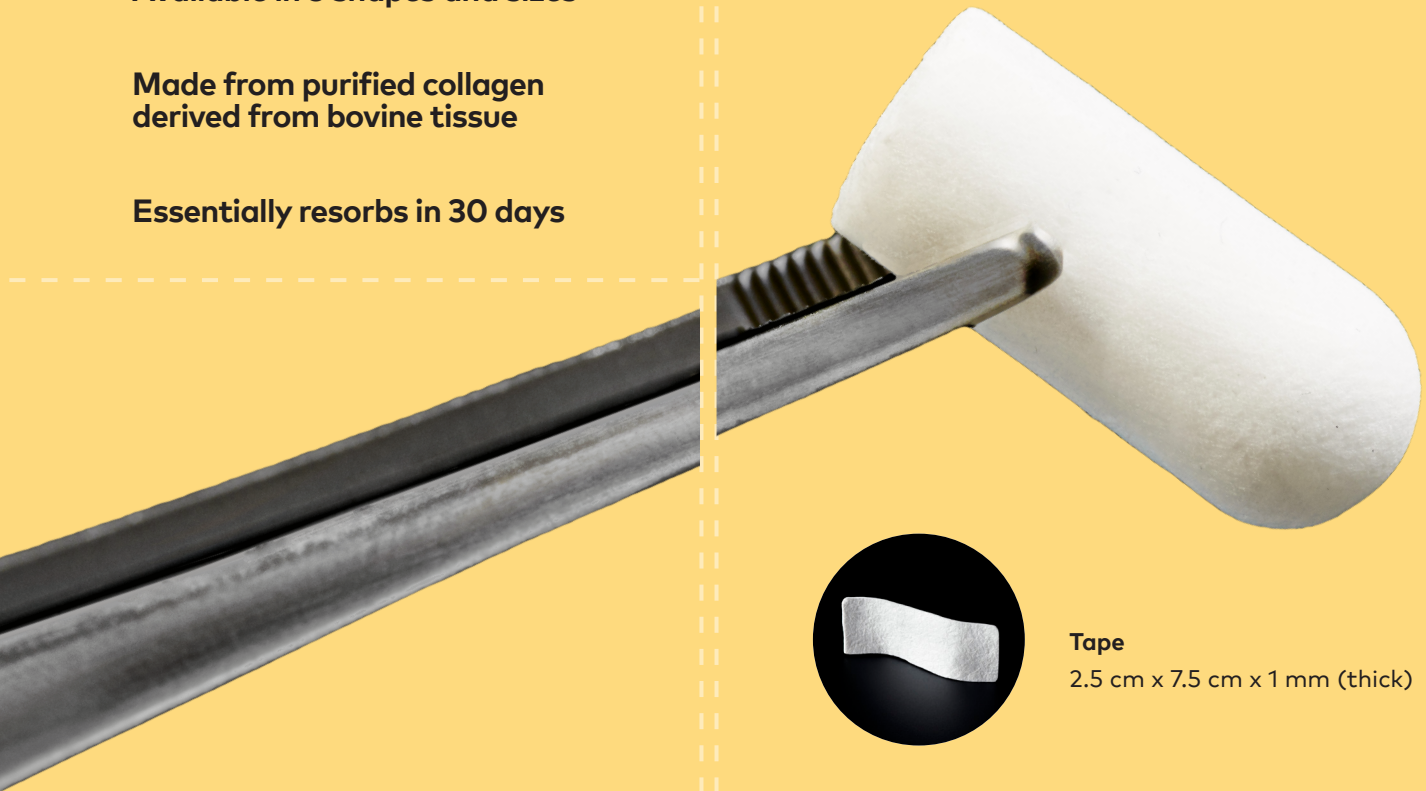
creos™ xenofill

Absorbable wound dressings to protect wound beds and aid in wound healing

Available in 3 shapes and sizes

Made from purified collagen derived from bovine tissue

Essentially resorbs in 30 days



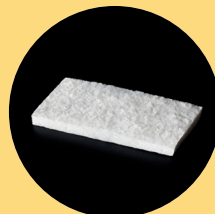
Tape

2.5 cm x 7.5 cm x 1 mm (thick)



Plug

1 cm x 2 cm



Foam

2 cm x 4 cm x 3 mm (thick)

Applications:

- Surgical wounds
- Periodontal surgical wounds
- Extraction sites
- Dental sores
- Oral ulcers (non-infected or viral)
- Suture sites
- Burns
- Traumatic wounds

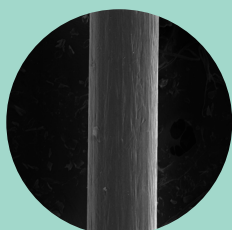


Scan the code for
more resources.

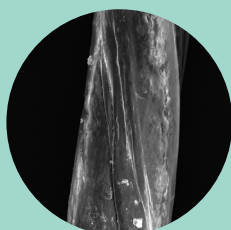
creos™ syntostitch

**Non-absorbable monofilament
PTFE sutures**

Smooth monofilament rod



creos™ syntostitch
350x magnification



PTFE Competitor
350x magnification

100% medical grade PTFE Biologically inert

Monofilament Does not wick bacteria

Soft (not stiff) Comfortable for patients

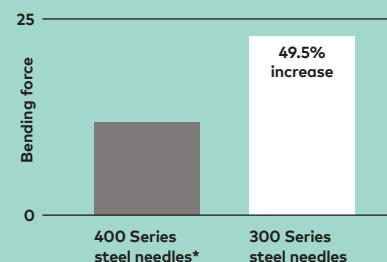
Little to no package memory Excellent handling, knots securely

Non-resorbable Keeps the surgical site reliably closed

Advantages of the 300 series stainless steel needles:

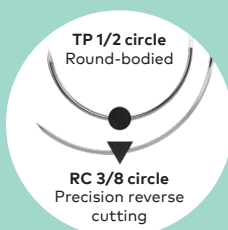
- Gold standard material for suture needles
- Increased needle strength and needle sharpness
- Less force to penetrate

Resistance to bending

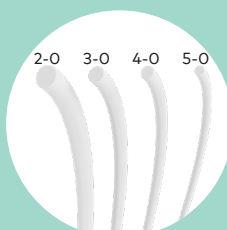


*common in dentistry

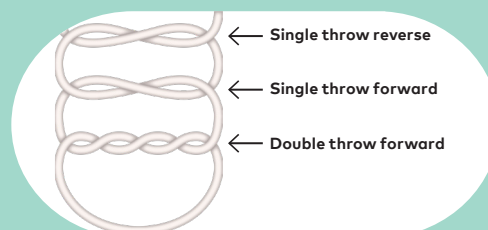
Needle shapes



Thread diameters

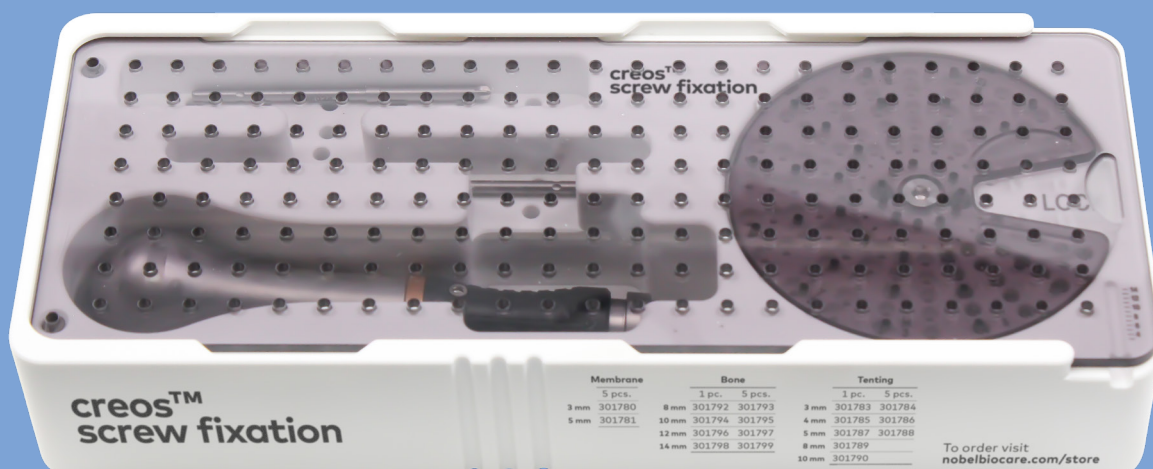


Recommended knot¹



creos™ screw fixation

Instruments and screws for fast and easy placement of membranes, bone blocks, and tenting screws



Versatility and adaptability

- Variety of bone fixation, membrane fixation, and tenting screws
- Instruments designed to work universally with all screw types

Ease of use

- Autoclavable kit
- Conveniently stores fixation instruments and up to 100 fixation screws
- Designed for easy identification, storage and simple reordering of the screws

Stable and secure fixation

- Easy pick-up of screws, stable transfer to the surgical site, quick engagement into the cortical bone



Membrane fixation screws

to secure membranes and mesh

- Self-drilling design
- Quick engagement in cortical bone
- No mallet or pilot holes needed



Tenting screws

to maintain space under membranes in horizontal and vertical augmentation procedures

- Self-drilling tip, polished neck, and broader head



Bone fixation screws

to stabilize, fixate, and support bone grafts

- Self-tapping threads
- Threads with a cutting flute for easier insertion into harder bone
- Head design allows screw to be screwed down flush to bone surface

Products

creos™ xenogain

Xenogenic bone graft substitute

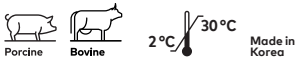
Weight	Granule size	Volume	Vial	Bowl	Syringe
0.25 g	Small (0.2–1.0 mm)	0.36 cc	N1110	N1110-B	N1210
	Large (1.0–2.0 mm)	0.54 cc	N1111	N1111-B	N1211
0.5 g	Small (0.2–1.0 mm)	0.82 cc	N1120	N1120-B	N1220
	Large (1.0–2.0 mm)	1.27 cc	N1121	N1121-B	N1221
1.00 g	Small (0.2–1.0 mm)	1.71 cc	N1130	N1130-B	
	Large (1.0–2.0 mm)	2.69 cc	N1131	N1131-B	
2.00 g	Small (0.2–1.0 mm)	3.64 cc	N1140	N1140-B	
	Large (1.0–2.0 mm)	5.74 cc	N1141	N1141-B	



creos™ xenogain collagen

creos™ xenogain + 10% porcine collagen type I

Weight	Block size	Article no.
0.1 g	6 × 6 × 6 mm	N1320
0.25 g	7 × 8 × 9 mm	N1330
0.5 g	9 × 10 × 11 mm	N1340



Weight	Syringe size	Article no.
0.25 g	4.6 × 40 mm	N1410
0.5 g	5.6 × 45 mm	N1420



Symbol glossary

- Temperature limit
- Upper limit of temperature

Most commonly sold articles

creos™ xenoform

Xenogenic bone graft substitute

Weight	Granule size	Volume	Vial (Granules)	Syringe
0.25 g	0.2–1.0 mm	0.5 cc	CHY25-0210	CHYS25-0210
0.5 g		1.1 cc	CHY05-0210	CHYS05-0210
1.0 g		2.1 cc	CHY10-0210	
2.0 g		4.1 cc	CHY20-0210	
0.25 g	0.5–1.2 mm	0.6 cc	CHY25-0512	CHYS25-0512
0.5 g		1.2 cc	CHY05-0512	CHYS05-0512
1.0 g		2.3 cc	CHY10-0512	
2.0 g		4.5 cc	CHY20-0512	



Bovine



15°C



25°C

Made in Korea
from Australian bone



creos™ syntogain

Synthetic bone graft

Weight	Granule size	Volume	Vial
0.5 g	Small (0.2–1.0 mm)	0.50 cc	S1110
1.0 g	Small (0.2–1.0 mm)	1.00 cc	S1120
0.5 g	Large (1.0–2.0 mm)	0.50 cc	S1111
1.0 g	Large (1.0–2.0 mm)	1.00 cc	S1121



Synthetic



10°C



30°C

Made in
Spain



creos™ xenoprotect

Nobel Biocare's highest selling
resorbable collagen membrane

Size	Article no.
15 × 20 mm	E1520
25 × 30 mm	E2530
30 × 40 mm	E3040



creos™ xenofirm

Resorbable, firm, collagen membrane

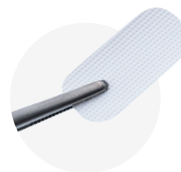
Size	Units/box	Article no.
15 × 20 mm	2	CLMCM1520
20 × 30 mm	2	CLMCM2030
30 × 40 mm	2	CLMCM3040



creos™ syntoprotect PTFE membrane

Non-resorbable, high-density PTFE membrane

Shape	Picture	Size	Thickness	Article no.	Units/box	Description
Small		12 × 24 mm	200 µm	N161224-1	1	Designed specifically for extraction site grafting and augmentation procedures where exposure to the oral cavity is common
			200 µm	N161224-10	10	
Medium		12 × 30 mm	200 µm	N161230-10	10	
Large		25 × 30 mm	200 µm	N162530-1	1	
			200 µm	N162530-4	4	



creos™ syntoprotect Ti-reinforced PTFE membrane

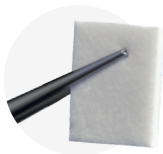
Non-resorbable, titanium reinforced, high-density PTFE membrane

Shape	Picture	Size	Thickness	1 unit per box	2 units per box	Description
No. 1		12 x 24 mm	150 µm	N1615TI-01-1	N1615TI-01-2	Designed for narrow single-tooth extraction sites, especially where one bony wall is missing
			250 µm	N1625TI-01-1	N1625TI-01-2	
No. 1, 30 mm		12 x 30 mm	150 µm	n/a	n/a	
			250 µm	N1625TI-01-30-1	N1625TI-01-30-2	
No. 2		14 x 24 mm	150 µm	N1615TI-02-1	N1615TI-02-2	Designed for single-tooth extraction sites, especially where one or more bony walls are missing
			250 µm	N1625TI-02-1	N1625TI-02-2	
No. 3		17 x 25 mm	150 µm	N1615TI-03-1	N1615TI-03-2	
			250 µm	N1625TI-03-1	N1625TI-03-2	
No. 3, 30 mm		17 x 30 mm	150 µm	N1615TI-03L-1	N1615TI-03L-2	Designed for large buccal defects
			250 µm	N1625TI-03L-1	N1625TI-03L-2	
No. 4		20 x 25 mm	150 µm	N1615TI-04-1	N1615TI-04-2	Designed for large extraction sites and limited ridge augmentation
			250 µm	N1625TI-04-1	N1625TI-04-2	
No. 5		36 x 25 mm	150 µm	N1615TI-05-1	N1615TI-05-2	Designed for large extraction sites and limited ridge augmentation in the anterior maxilla
			250 µm	N1625TI-05-1	N1625TI-05-2	
No. 6		25 x 30 mm	150 µm	N1615TI-06-1	N1615TI-06-2	Designed for large bony defects, including ridge augmentation
			250 µm	N1625TI-06-1	N1625TI-06-2	
No. 7		30 x 41 mm	150 µm	N1615TI-07-1	N1615TI-07-2	Designed for large bony defects, including ridge augmentation in the anterior maxilla
			250 µm	N1625TI-07-1	N1625TI-07-2	
No. 8		30 x 40 mm	150 µm	N1615TI-08-1	N1615TI-08-2	Designed for very large bony defects, including ridge augmentation
			250 µm	N1625TI-08-1	N1625TI-08-2	
No. 9		30 x 40 mm	150 µm	N1615TI-09-1	N1615TI-09-2	Designed for very large bony defects, including ridge augmentation
			250 µm	N1625TI-09-1	N1625TI-09-2	
No. 10		24 x 38 mm	150 µm	N1615TI-10-1	N1615TI-10-2	Designed for large extraction sites, including ridge augmentation
			250 µm	N1625TI-10-1	N1625TI-10-2	
No. 11		38 x 38 mm	150 µm	N1615TI-11-1	N1615TI-11-2	Designed for large bony defects, including ridge augmentation
			250 µm	N1625TI-11-1	N1625TI-11-2	
No. 12		38 x 38 mm	150 µm	N1615TI-12-1	N1615TI-12-2	Designed for large bony defects, including distal extension of the posterior ridge
			250 µm	N1625TI-12-1	N1625TI-12-2	
No. 13		40 x 50 mm	150 µm	N1615TI-13-1	N1615TI-13-2	Designed for the largest bony defects, including ridge augmentation
			250 µm	N1625TI-13-1	N1625TI-13-2	

creos™ mucogain

Absorbable collagen matrix

Size	Block size	Article no.
15 × 20 mm	3 mm	MU15203
25 × 30 mm	3 mm	MU25303
15 × 20 mm	5 mm	MU15205
25 × 30 mm	5 mm	MU25305



creos™ xenofill

Absorbable wound dressing

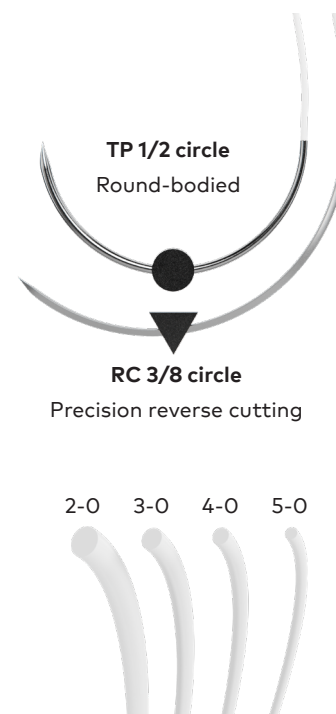
Size	Size	Units/box	Article no.
Plug	1 × 2 cm	10	CLMBDDWDP1020
Foam	2 × 4 cm	10	CLMBDDWDF2040
Tape	2.5 × 7.5 cm	10	CLMBDDWDT2575



creos™ syntostitch

Non-absorbable PTFE suture – monofilament

Needle shape	USP	Needle size	Needle color	Suture length 45 cm 12 units per box	Suture length 70 cm 12 units per box	
TP 1/2 circle Round-bodied	4-0	13 mm		301815	301816	
	2-0	19 mm		301805	301806	
	3-0	16 mm			301807	301808
19 mm				301809	301810	
16 mm		black		301811	301812	
19 mm		black		301813	301814	
RC 3/8 circle Precision reverse cutting		13 mm			301817	301818
	16 mm			301819	301820	
	4-0	13 mm			301821	301822
		16 mm			301823	301824



creos™ screw fixation

Titanium screws for membrane/bone fixation and tenting

Membrane fixation kit Article 301779

Products included	Size	QTY
Stabilization kit		1
Self-drilling membrane fixation screw	1.5 × 3 mm	20

Bone fixation kit Article 301791

Products included	Size	QTY
Stabilization kit		1
Self-tapping bone fixation screw	1.5 × 8 mm	2
	1.5 × 10 mm	4
	1.5 × 12 mm	4
	1.5 × 14 mm	2

Tenting kit Article 301782

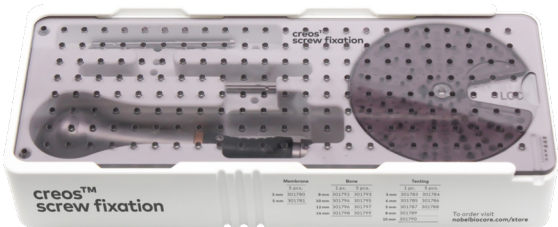
Products included	Size	QTY
Stabilization kit		1
Self-drilling tenting screw	1.5 × 3 mm	4
	1.5 × 4 mm	4
	1.5 × 5 mm	4

Individual components

Description	1 unit per box
Cruciform driver blade, 76 mm	301800
Cruciform driver blade, 56 mm	301801
Contra angle blade, 24 mm	301802
Stainless steel driver handle	301803
Autoclavable storage tray	301804

Stabilization kit includes

- Storage tray with screw organizer dial
- Stainless steel driver handle
- 76 mm cruciform driver blade
- 56 mm cruciform driver blade



Made in
USA

Membrane fixation screws

Size	5 units per box
1.5 × 3 mm	301780
1.5 × 5 mm	301781



Tenting screws

Size	Special	1 unit per box	5 units per box
1.5 × 3 mm polished neck		301783	301784
1.5 × 4 mm polished neck	+4 mm threaded portion	301785	301786
1.5 × 5 mm polished neck		301787	301788
1.5 × 8 mm	fully threaded	301789	n/a
1.5 × 10 mm	fully threaded	301790	n/a



Bone fixation screws

Size	1 unit per box	5 units per box
1.5 × 8 mm	301792	301793
1.5 × 10 mm	301794	301795
1.5 × 12 mm	301796	301797
1.5 × 14 mm	301798	301799



Connect to
Nobel Biocare
Online store

References

creos™ xenogain

1. Nobel Biocare, data on file.
2. Rhee S-H, Park HN, Seol Y-J et al. Effect of heat-treatment temperature on the osteoconductivity of the apatite derived from bovine bone. 2006 Key Engineering Materials 309-311:41-44 [Read](#)
3. Arrighi I, Wessing B, Rieben A, et al. Resorbable collagen membranes expansion in vitro. J Dent Res 2014;93 (Spec Iss B):631 [Read on Pubmed](#)
4. Park JB, et al. Maxillary sinus floor augmentation using deproteinized bovine bone-derived bone graft material (OCS-B). Clinical and histologic findings in humans. The Journal of the Korean Dental Association. 2007;45(8):491-99 [Read on Pubmed](#)
5. Shin S-Y, et al. Long-term results of new deproteinized bovine bone material in a maxillary sinus graft procedure. J Periodontal Implant Sci. 2014;44:259-64. [Read on Pubmed](#)
6. Aleksic Z, Milikovic I, Lazic Z, et al. A multicenter clinical investigation demonstrates bone regeneration in severe horizontal defects in the posterior mandible using creos™ xenoprotect: Interim results. J Clin Periodontol 2018;45(S19):306 [Read](#)
7. Park HN, Han, SH, Kim KW, et al. A study on the safety and efficacy of bovine bone-derived bone graft material (OCS-B). J Korean Acad Periodontol. 2005 Jun;35(2):335 – 43 [Read](#)
8. Kim Y-T, et.al. Periodontal Repair on Intrabony Defects treated with Anorganic Bovine-derived Xenograft. J Korean Acad Periodontol. 2007;37(3):489 – 96
9. Fernandez de Grado G, Keller L, Idoux-Gillet Y et al. Bone substitutes: a review of their characteristics, clinical use, and perspectives for large bone defects management. Journal of Tissue Engineering Volume 9: 1-18, 2018 [Read on Pubmed](#)
10. Zhang K, Fan Y, Dunne N et al. Effect of microporosity on scaffolds for bone tissue engineering. Regenerative Biomaterials, 2018, 115-124 [Read on Pubmed](#)

creos™ xenoform

1. Suzuki O, Shiwaku Y, Hamai R. Octacalcium phosphate bone substitute materials: Comparison between properties of biomaterials and other calcium phosphate materials. Dent Mater J. 2020;39(2):187-199. doi:10.4012/dmj.2020-00 [Read on Pubmed](#)
2. Anil A, Sadasivan A, Koshi E. Physicochemical Characterization of Five Different Bone Graft Substitutes Used in Periodontal Regeneration: An In Vitro Study. J Int Soc Prev Community Dent. 2020;10(5):634-642. Published 2020 Sep 28. doi:10.4103/jispcd.JISPCD_263_20 [Read](#)
3. JH. Lee, JH Kim, JHong Jeon, Bone Regeneration of Macropore Octacalcium Phosphate-Coated Deproteinized Bovine Bone Materials in Sinus Augmentation: A Prospective Pilot Study, Implant Dentistry, 2015;24(3):275-280 [Read on Pubmed](#)

creos™ syntogain

1. Hoornaert A, Maazouz Y, Pastorino D, et al. Vertical Bone Regeneration with Synthetic Biomimetic Calcium Phosphate onto the Calvaria of Rats. Tissue Eng Part C Methods. 2019 Jan;25(1):1-11. doi: 10.1089/ten.TEC.2018.0260. PMID: 30501579. [Read on Pubmed](#)
2. Barba A, Diez-Escudero A, Espanol M, et al. Impact of biomimicry in the design of osteoinductive bone substitutes: nanoscale matters. ACS Appl. Mater. Interfaces 2019. DOI:10.1021/acsami.8b20749. [Read on Pubmed](#)
3. Data on file: Mimetis XRD analysis report using the RIR quantification method. Medical device composition certificate.
4. Barba A, Diez-Escudero A, Maazouz Y, et al. Osteoinduction by foamed and 3D-printed calcium phosphate scaffolds: effect of nanostructure and pore architecture. ACS Appl. Mater. Interfaces 2017. DOI:10.1021/acsami.7b14175. [Read on Pubmed](#)
5. Sadowska JM, Guillem-Marti J, Montufar EB, Espanol M, Ginebra MP. * Biomimetic Versus Sintered Calcium Phosphates: The In Vitro Behavior of Osteoblasts and Mesenchymal Stem Cells. Tissue Eng Part A. 2017 Dec;23(2324):1297-1309. doi: 10.1089/ten.TEA.2016.0406. Epub 2017 Feb 21. PMID: 28107811. [Read on Pubmed](#)
6. Data on file: Milestone 2 study (page 18)

7. Konka J, Espanol M, Bosch BM, de Oliveira E, Ginebra MP. Maturation of biomimetic hydroxyapatite in physiological fluids: a physicochemical and proteomic study. *Mater Today Bio.* 2021 Sep 15;12:100137. doi: 10.1016/j.mtbio.2021.100137. PMID: 34632362; PMCID: PMC8487082. [Read on Pubmed](#)

8. Hannink G, Arts C. Bioresorbability, porosity and mechanical strength of bone substitutes: What is optimal for bone regeneration? *Injury*, Volume 42, Supplement 2, 2011, Pages S22-S25, ISSN 0020-1383. [Read on Pubmed](#)

9. Data on file: Clinical cases from 2022.

10. Raymond Y, Pastorino D, Ginebreda I, et al. Computed tomography and histological evaluation of xenogenic and biomimetic bone grafts in three-wall alveolar defects in minipigs. *Clin Oral Investig.* 2021 Dec;25(12):6695-6706. doi: 10.1007/s00784-021-03956-y. Epub 2021 May 1. PMID: 33931811. [Read on Pubmed](#)

11. Data on file: Granules handling Voice of Customer from 2017-2018 + GKEM Handling Questionnaires Results from 2022.

12. Data on file: Milestone 2 report (chapter 2.5.1)

13. Henkel KO, Gerber T, Lenz S, Gundlach KK, Bienengraber V. Macroscopical, histological, and morphometric studies of porous bone-replacement materials in minipigs 8 months after implantation. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod.* 2006 Nov;102(5):606-13. doi: 10.1016/j.tripleo.2005.10.034. Epub 2006 May 19. PMID: 17052636. [Read on Pubmed](#)

14. Weibrich G, Trettn R, Gnoth SH, et al. Bestimmung der Größe der spezifischen Oberfläche von Knochenersatzmaterialien mittels Gasadsorption. (Alternate title: Analysis of the size of the specific surface area of one regeneration materials by gas adsorption). *Mund Kiefer Gesichtschir* (2000) 4:148-152 Springer-Verlag 2000. [Read](#)

15. Rufino Senra M, de Fátima Vieira Marques M. Synthetic Polymeric Materials for Bone Replacement. *J. Compos. Sci.* 2020,4, 191;doi:10.3390/jcs4040191. [Read](#)

16. Ginebra MP, Espanol M, Maazouz Y, Bergez V, Pastorino D. Bioceramics and bone healing. *EFORT Open Rev* 2018;3 DOI: 10.1302/2058-5241.3.170056. [Read on Pubmed](#)

17. Ginebra Cairó I., Roig Cayón M., Velasco-Ortega E. et al., Biomimetic synthetic bone graft in alveolar ridge preservation: 1-year RCT results, Abstract N°EAO-647 EAO Geneva 2022.

creos™ xenoprotect

1. Aleksic Z. A multicenter clinical investigation demonstrates bone regeneration in severe horizontal defects in the posterior mandible using creos xenoprotect: Interim results. Conference: Europerio 9, July 2018. [Read](#)

2. Wessing B, Emmerich M, Bozkurt A. Horizontal ridge augmentation with a novel resorbable collagen membrane: a retrospective analysis of 36 consecutive patients. *Int J Periodontics Restorative Dent* 2016;36(2):179-187. [Read on Pubmed](#)

3. Bozkurt A, Apel C, Sellhaus B, et al. Differences in degradation behavior of two non-cross-linked collagen barrier membranes: an in vitro and in vivo study. *Clin Oral Impl Res*; 2014; 25(12):1403-1411 [Read on Pubmed](#)

4. Gasser A, Wessing B, Eummelen L, et al. Mechanical stability of collagen membranes: an in vitro study. *J Dent Res* 2016;95(Spec Iss A): 1683 [Read](#)

5. Wessing B, Urban I, Montero E, et al. A multicenter randomized controlled clinical trial using a new resorbable non-cross-linked collagen membrane for guided bone regeneration at dehiscence single implant sites: interim results of a bone augmentation procedure. *Clin Oral Impl Res*; 2017;28(11):e218-e226. [Read on Pubmed](#)

6. Sanz-Sanchez I, Wessing B, Polizzi G, et al. Randomized clinical trial comparing two resorbable collagen membranes demonstrates good bone formation and soft tissue healing with GBR at single implant sites with dehiscence defects. *J Clin Periodontol* 2018;45(S19):19-20 [oral presentation]. [Read](#)

7. Omar O, Dahlin A, Gasser A, et al. Tissue dynamics and regenerative outcome in two resorbable noncross-linked collagen membranes for guided bone regeneration: A preclinical molecular and histological study in vivo. *Clin Oral Impl Res*; 2018;29(1):7-19 [Read on Pubmed](#)

8. Aleksic Z, Milikovic I, Lazic Z, et al. A multicenter clinical investigation demonstrates bone regeneration in severe horizontal defects in the posterior mandible using creos™ xenoprotect: Interim results. *J Clin Periodontol* 2018;45(S19):306 [Read](#)

9. Raz P, Brosh T, Ronen G, Tal H. Tensile Properties of Three Selected Collagen Membranes. *Biomed Res Int.* 2019 Dec 5;2019:5163603. doi: 10.1155/2019/5163603. PMID: 31886222; PMCID: PMC6915138. [Read on Pubmed](#)

10. Jäger M, Degistirici O, Knipper A, Fischer J, Sager M, Krauspe R. Bone healing and migration of cord blood-derived stem cells into a critical size femoral defect after xenotransplantation. *J Bone Miner Res.* 2007;22(8): 1224-33. [Read on Pubmed](#)

11. Redemagni M, Mascetti T, Garlini G. Post-Extractive Immediate Implant Placement and Immediate Provisionalization at Sites Requiring Buccal Bone Regeneration. *EC Dental Science.* 2019(18.6): 1207-16. [Read](#)

12. Cadenas-Vacas G, Martínez-Rodríguez N, Barona-Dorado C, Sánchez-Labrador L, Cortés-Bretón Brinkmann J, Meniz-García C, et al. Calcium Phosphate Modified with Silicon vs. Bovine Hydroxyapatite for Alveolar Ridge Preservation: Densitometric Evaluation, Morphological Changes and Histomorphometric Study. *Materials (Basel)* [Internet]. 2021;14(4): 940. [Read](#)

13. Bruyckere T de, Cosyn J, Younes F, Hellyn J, Bekx J, Cleymaet R, et al. A randomized controlled study comparing guided bone regeneration with connective tissue graft to reestablish buccal convexity: One-year aesthetic and patient-reported outcomes. *Clin Oral Implants Res.* 2020;31(6): 507-16. [Read on Pubmed](#)

14. J. Jiménez García, S. Berghezan, J.M.M. Caramês, M.M. Dard, D.N.S. Marques, Effect of cross-linked vs non-cross-linked collagen membranes on bone: A systematic review, *J Periodont Res.* 2017;1-10. [Read on Pubmed](#)

Bruyckere T de, Eekhout C, Eghbali A, Younes F, Vandekerckhove P, Cleymaet R, et al. A randomized controlled study comparing guided bone regeneration with connective tissue graft to re-establish convexity at the buccal aspect of single implants: A one-year CBCT analysis. *J Clin Periodontol.* 2018;45(11): 1375-87. [Read on Pubmed](#)

González Regueiro I, Martínez Rodríguez N, Barona Dorado C, Sanz-Sánchez I, Montero E, Ata-Ali J, et al. Surgical approach combining implantoplasty and reconstructive therapy with locally delivered antibiotic in the treatment of peri-implantitis: A prospective clinical case series. *Clin Implant Dent Relat Res.* 2021;23(6): 864-73. [Read on Pubmed](#)

creos™ syntoprotect

1. Fotek PD, Neiva RF, Wang HL. Comparison of dermal matrix and polytetrafluoroethylene membrane for socket bone augmentation: a clinical and histologic study. *J Periodontol* 2009;80:776-785. [Read on Pubmed](#)

2. Barboza EP, Francisco BS, Ferreira VF. Soft tissue enhancement using non-expanded PTFE membranes without primary closure [abstract]. Presented at the 2008 Research Forum Poster Session. Annual Meeting of the American Academy of Periodontology (AAP) in Seattle, WA, September 6-9, 2008.

3. Ronda M, Rebaudi A, Torelli L, Stacchi C. Expanded vs. dense polytetrafluoroethylene membranes in vertical ridge augmentation around dental implants: a prospective randomized controlled clinical trial. *Clin Oral Impl Res;* 2014 Jul;25(7):859-66. [Read on Pubmed](#)

4. Barboza EP, Stutz B, Ferreira VF, Carvalho W. Guided bone regeneration using nonexpanded polytetrafluoroethylene membranes in preparation for dental implant placements - a report of 420 cases. *Implant Dent.* 2010;19:2-7. [Read on Pubmed](#)

5. Hoffman O, Bartee BK, Beaumont C, Kasaj A, Deli G, Zafiropoulos GG. Alveolar bone preservation in extraction sockets using non-resorbable dense PTFE membranes: A retrospective non-randomized study. *J Periodontol* 2008;79:1355-1369. [Read on Pubmed](#)

creos™ mucogain

1. Aguirre-Zorzano LA, García-De La Fuente AM, Estefanía-Fresco R, et al. Complications of harvesting a connective tissue graft from the palate. A retrospective study and description of a new technique. *J Clin Exp Dent* 2017;9(12):e1439-e1445. [Read on Pubmed](#)

2. Griffin TJ, Cheung WS, Zavras AI, et al. Postoperative complications following gingival augmentation procedures. *J Periodontol* 2006;77(12):2070-2079. [Read on Pubmed](#)

3. Harris RJ, Miller R, Miller LH, et al. Complications with surgical procedures utilizing connective tissue grafts: a follow-up of 500 consecutively treated cases. *Int J Periodontics Restorative Dent* 2005;25(5):449-459. [Read on Pubmed](#)

4. Damink L.O., Heschel I, Leemhuis H. et al Gasser A, Wessing B, Eummelen L, et al. Soft tissue volume augmentation in the oral cavity with a collagen-based 3D matrix with orientated open pore structure. *Current Directions in Biomedical Engineering* 2018; 4(1): 237 – 241 References 1-10 11-20 [Read on Researchgate](#)

5. Heschel I, et al. 2002. Method for producing-porous structures. US patent 6,447,701 B1.

6. Boekema B., Vlig F, Damink O.L. et al. Effect of pore size and cross-linking of a novel collagen-elastin dermal substitute on wound healing. *J Mater Sci Mater Med* 2014;25(2):423-433 [Read on Pubmed](#)

7. Wessing B, Vasilic N. Soft tissue augmentation with a new regenerative collagen 3-D matrix with oriented open pores as a potential alternative to autologous connective tissue grafts. Clin Oral Impl Res; 2014 Sep;25(s10)

8. Sanz-Martin I, Encalada C, Sam-Sanchez I, et al. Soft tissue augmentation at immediate implants using a novel xenogeneic collagen matrix in conjunction with immediate provisional restorations: A prospective case series. Clin Implant Dent Relat Res 2019;21(1):145-153. [Read on Pubmed](#)

9. Cirillo F and Encalada C. Periodontal plastic surgery: treatment of multiple gingival recessions. FOR.org [Read on FOR.org](#)

creos™ xenofill

Basma, H. S., Saleh, M. H. A., Abou-Arraj, R. V., Imbrogno, M., Ravida, A., Wang, H. L., Li, P., & Geurs, N. (2023). Patient-reported outcomes of palatal donor site healing using four different wound dressing modalities following free epithelialized mucosal grafts: A four-arm randomized controlled clinical trial. Journal of periodontology, 94(1), 88–97. [Read on Pubmed](#)

creos™ syntostitch

1. Abellán, D., Nart, J., Pascual, A., Cohen, R. E., & Sanz-Moliner, J. D. (2016). Physical and Mechanical Evaluation of Five Suture Materials on Three Knot Configurations: An in Vitro Study. Polymers, 8(4), 147. [Read](#)

Taysi AE, Ercal P, Sismanoglu S. Comparison between tensile characteristics of various suture materials with two suture techniques: an in vitro study. Clin Oral Investig. 2021 Apr 14. [Read on Pubmed](#)

Silverstein LH, Kurtzman GM, Shatz PC. Suturing for optimal soft-tissue management. J Oral Implantol. 2009;35:82-90. [Read on Pubmed](#)

Silverstein LH. Suturing principles: Preserving needle edges during dental suturing. PPAD. 2005;17:562-564.

Urban IA, Lozada JL, Wessing B, Suárez-López del Amo F, Wang HL. Vertical Bone Grafting and Periosteal Vertical Mattress Suture for the Fixation of Resorbable Membranes and Stabilization of Particulate Grafts in Horizontal Guided Bone Regeneration to Achieve More Predictable Results: A Technical Report. Int J Periodontics Restorative Dent. 2016;36(2):153-159. doi:10.11607/prd.2627 [Read on Pubmed](#)

creos™ screw fixation

Plonka, A. B., Urban, I. A., & Wang, H. L. (2018). Decision Tree for Vertical Ridge Augmentation. The International journal of periodontics & restorative dentistry, 38(2), 269–275. [Read on Pubmed](#)

Urban, I. A., Monje, A., Lozada, J., & Wang, H. L. (2017). Principles for Vertical Ridge Augmentation in the Atrophic Posterior Mandible: A Technical Review. The International journal of periodontics & restorative dentistry, 37(5), 639–645. [Read on Pubmed](#)

Gultekin, B. A., Cansiz, E., & Borahan, M. O. (2017). Clinical and 3-Dimensional Radiographic Evaluation of Autogenous Iliac Block Bone Grafting and Guided Bone Regeneration in Patients With Atrophic Maxilla. Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons, 75(4), 709–722. <https://doi.org/10.1016/j.joms.2016.11.019> [Read on Pubmed](#)

Wessing B, Urban I, Montero E, et al. A multicenter randomized controlled clinical trial using a new resorbable non-cross-linked collagen membrane for guided bone regeneration at dehiscence single implant sites: interim results of a bone augmentation procedure. Clin Oral Impl Res; 2017;28(11):e218–e226. [Read on Pubmed](#)

Order online

Order our complete creos™ range 24 hours a day through the Nobel Biocare online store.

nobelbiocare.com/store

Order by phone

Call our customer service team or contact your sales representative.

nobelbiocare.com/contact



nobelbiocare.com



89071 A GB 2401 Printed in the EU © Nobel Biocare Services AG, 2024. All rights reserved. Distributed by: Nobel Biocare.

Disclaimer: Nobel Biocare, the Nobel Biocare logotype and all other trademarks are, if nothing else is stated or is evident from the context in a certain case, trademarks of Nobel Biocare. Please refer to nobelbiocare.com/trademarks for more information.

Product images are not necessarily to scale. All product images are for illustration purposes only and may not be an exact representation of the product.

Some products may not be regulatory cleared/released for sale in all markets. Please contact the local Nobel Biocare sales office for current product assortment and availability. Caution: Federal (United States) law or the law in your jurisdiction may restrict this device to sale by or on the order of a dentist or a physician. See Instructions For Use for full prescribing information, including indications, contraindications, warnings and precautions.

creos™ xenogain is manufactured for/by Nibec Co. Ltd., Chungcheongbuk-do, 27816 Korea and distributed by Nobel Biocare Services AG. creos™ xenoform is manufactured for/by Chiyewon, Gyeonggi-do, Korea 11927 and distributed by Nobel Biocare Services AG. creos™ syntogain is manufactured for/by Mimetis Biomaterials, Carrer de Cartagena, 245, 3E, Barcelona 08025, Spain and distributed by Nobel Biocare Services AG. creos™ xenoprotect and creos™ mucogain are manufactured for/by Matricel GmbH, Kaiserstrasse 100, 52134 Herzogenrath, Germany and distributed by Nobel Biocare Services AG. creos™ xenoprotect is manufactured for/by Matricel GmbH, Kaiserstrasse 100, 52134 Herzogenrath, Germany and distributed by Nobel Biocare Services AG. creos™ syntoprotect, creos™ syntostitch, creos™ screw fixation are manufactured for/by Osteogenics Biomedical, 4620 71st St # 78, Lubbock, TX 79424, USA and distributed by Nobel Biocare Services AG. creos™ xenofill and creos™ xenofirm are manufactured for/by Collagen Matrix, Inc. 15 Thornton Road Oakland, NJ 07436 USA and distributed by Nobel Biocare Services AG.